Teoriya i Praktika Fizicheskoy Kultury 2018 N3, pages 71-73

Geo-information systems applied in competitive orienteering

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Abstract

© 2018 Teoriya i praktika fizicheskoy kul'tury i sporta. All rights reserved. Objective of the study was to overview the modern geo-information technologies applicable in the competitive orienteering events. It gives a brief description of the relevant computer systems and the best ways to apply them in practical competitions and considers the relevant problems. Prior to a competitive orienteering event, for instance, every competitor receives a special digital chipset to track his/her movement all over the distance. The competitive orienteering events in the Chelyabinsk region are managed with application of the German electronic chipsets SportIdent. Modern competitive orienteering is ranked among the extreme sport disciplines that are required to be served by 3D process analyzing systems covering the subject area. The 3D model building process requires not too much time, with only a 2D map and an altitude matrix of the competitive area required for design of the 3D terrain of the area. Later on the model shall be moved across the terrain to simulate the competitor's actions on a real-time basis. Furthermore, the GPS-orienteering and geo-information systems are widely used in the modern cross-city sprints. GPS-systems make it possible to track the process and even prevent violations and/or accidents in some cases, particularly when the competitions take place in hard-to-reach zones. Therefore, the applied geo-information systems are highly beneficial in some modern sports.

Keywords

Check points, Competitive orienteering, Digital chipset, Geo-information system, GPS-navigation

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